

A new Anthracoidea (Ustilaginales) Record for Turkey

Türkiye için Yeni bir Anthracoidea (Ustilaginales) Kaydı

Research Article

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ABSTRACT

The smut species, *Anthracoidea irregularis* (Liro) Boidol & Poelt (*Anthracoideaceae*) on *Carex halleriana* Asso (*Cyperaceae*) was reported for the first time from Turkey. The morphological and microscopical features of this fungi are described with figures.

Key Words

Niğde, Aladağlar, New records, Ustilaginales.

ÖZ

Bir rastık mantarı türü olan *Anthracoidea irregularis* (Liro) Boidol & Poelt (*Anthracoideaceae*), *Carex halleriana* Asso (*Cyperaceae*) bitkisi üzerinde Türkiye'den ilk kez kaydedilmiştir. Bu mantarın şekilleri ile morfolojik ve mikroskobik özellikleri, toplanan örneklerle ilgili olarak tanımlanmıştır.

Anahtar Kelimeler

Niğde, Aladağlar, Yeni kayıt, Ustilaginales.

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INTRODUCTION

Smuts are group of plant parasitic fungi belonging to the order Uredinales within the division *Basidiomycota*. The group includes more than 1200 species which could infect about 4000 different plant species, particularly cereals and grasses [1].

Anthracoidea (*Anthracoideaceae*) is a large genus of smut fungi and there are 106 species currently exist in the genus. The genus members infect host plants in the Cyperaceae (mostly *Carex* sp.) and it is characterized by form globoid sori in the ovaries and spores produced on the outer surface of the reduced achenes [2,3].

According to literature [4-13], five confirmed *Anthracoidea* species on *Carex* sp (*A. angulata* (Syd.) Boidol & Poelt on *Carex hirta* L., *A. caricis* (Pers.) Bref. on *Carex stenophylla* Wahlenb., *A. pratensis* (Syd.) Boidol & Poelt on *Carex divisa* Huds., *A. pseudirregularis* U. Braun on *Carex* sp., *A. subinclusa* (Körn.) Bref. on *Carex stenophylla* Wahlenb.) have hitherto been reported from Turkey but there is not any record of *Anthracoidea irregularis* (Liro) Boidol & Poelt.

The current study aims to make contribution to the smut mycobiota of Turkey.

MATERIALS and METHODS

Materials were collected in 2013 from Kayseri and Mersin provinces in Turkey. The host specimens were prepared according to established herbarium techniques. Host plants identified use the Flora of Turkey and the East Aegean Islands [14]. Spores were scraped from dried host specimens. Microphotographs were taken under a light microscope (Noveks B series 1000). Analysis LS Starterwas software was used to measure. Identification was performed with the aid of literature [1,3]. The identified samples are deposited in the İnönü University Herbarium (INU).

RESULTS AND DISCUSSION

Basidiomycota
Ustilaginomycetes
Ustilaginales
Anthracoideaceae
Anthracoidea Bref.
Anthracoidea irregularis (Liro) Boidol & Poelt (Figure 1).

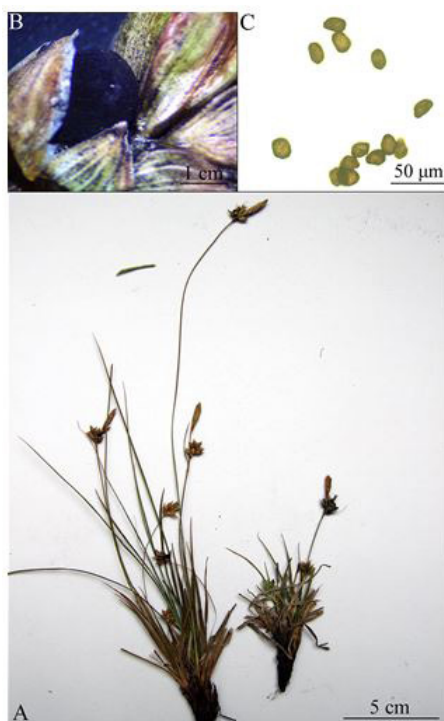


Figure 1. *Anthracoidea irregularis* A. dried herbarium specimen, B. SM view of *Anthracoidea penniseti* on sori, C. LM view of Teleutospores.

Sori in ovaries, scattered in the inflorescence, forming globose to ovoid, hard, black bodies, 1-2 mm in diam., partly hidden by the glumes, surface powdery. Spores medium to large sized, distingly elongate, 13-22×18-29(-34) µm, angular-irregular, sometimes rounded, medium dark reddish brown, wall uneven, 1-2,5 (-3) µm thick, thickest at the angles and protuberances, often with light-refractive spot in the thickest area, sometimes 1-3 low internal swelling, surface finely to coarsely verruculose, spore profile finely wavy to serrulate.

Specimens examined - On *Carex halleriana* Asso (*Cyperaceae*): TURKEY–Niğde, **Çamardı**, Emli valley, 1800-1900 m, 25.06.2015, S. Kabaktepe & I. Akata 8125 (INU 1210).

Distribution: On species of *Carex* (*Cyperaceae*) cosmopolitan, widespread in China, Mongolia, Japan, Europe [14].

DISCUSSION

Anthracoidea irregularis is easily distinguished from other *Anthracoidea* species by its germination type (*Anthracoidea* type), forming hard bodies on inflorescence, angular-irregular spores, surface of spores and warts thick, round or slightly elongated.

With the present study, *Anthracoidea irregularis* is reported for the first time from Turkey and it will be the 61th species of smut fungi and the six *Anthracoidea* member growing on Turkish *Carex* species.

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